

DOCUMENT RESUME

ED 280 613

PS 016 467

AUTHOR Applegate, Brooks
TITLE A Meta-Analysis of the Effects of Day Care on Development: Preliminary Findings.
PUB DATE Nov 86
NOTE 25p.; Paper presented at the Annual Meeting of the Mid-South Educational Research Association (Memphis, TN, November 19-21, 1986).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)
EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Day Care; Early Childhood Education; *Individual Development; *Meta Analysis; *Outcomes of Education; Research Methodology
IDENTIFIERS Coding

ABSTRACT

Effects of day care experiences on children's cognitive, emotional, and social/behavioral development were investigated by meta-analytic techniques. Thirteen studies meeting domain specifications were coded. Twenty variables including an effect size were coded for each study. Twenty-two levels of the dependent variable were identified, yielding 114 effect sizes from a sample population of 492 children. Results suggest that day care does not adversely affect children's behaviors or their development. The findings are consistent with previous reviews, while providing quantitative assessment of the effects of day care on children's development. The limitations and restrictions of the meta-analysis are also discussed. The meta-analysis codebook and a list of articles included in the analysis are appended. (Author/RH)

* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *

A Meta-Analysis of the Effects of
Day Care on Development:
Preliminary Findings

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)

☐ This document has been reproduced as
received from the person or organization
originating it.

☒ Minor changes have been made to improve
reproduction quality.

• Points of view or opinions stated in this docu-
ment do not necessarily represent official
OERI position or policy.

by

Brooks Applegate

The University of Alabama

"PERMISSION TO REPRODUCE THIS
MATERIAL HAS BEEN GRANTED BY

Brooks
Applegate

TO THE EDUCATIONAL RESOURCES
INFORMATION CENTER (ERIC)."

Running Head: Day Care

Paper presented at the Annual Meeting of Mid-South Educational Research
Association. Memphis, TN, 1986.

ED280613

PS 016467

ABSTRACT

The effects of day care experiences on children's cognitive, emotional, and social/behavioral development were investigated by meta-analytic techniques. Thirteen studies were coded that met domain specifications. Twenty variables including an effect size were coded for each study. Twenty two levels of the dependent variable were identified, yielding 114 effect sizes from a sample population of 492 children. Results from this analysis suggest that day care does not adversely effect children's behaviors or their development. The results are consistent with previous reviews while providing quantitative assessment of the effects of day care on children's development. The limitations and restrictions of this meta-analysis are also discussed.

A Meta-Analysis of the Effects of Day Care on Development

For the last two decades the frequency of single parenthood and maternal employment has increased at dramatic rates in our society. Parallel with the increase in parental employment is the need for quality out-of-home environments for the children of working parents (Child Care Data and Materials, 1974). Furthermore, there has been a corresponding increase in the concern expressed by policy makers, program administrators, developmentalists, and parents as to the consequences of day care on the development of children.

Day care as defined in this discussion will refer to an alternate care environment where the parent(s) is absent from the child's environment for an extended period. Furthermore, the alternative care environment shall not be in the child's own home and supervision is provided by paid caregivers. Day care in this context does not include structured educational environments, such as preschool, nursery school, Head Start or Home Bound programs. There can, however, be educational components built into the day care program. Specifically, day care must provide a care service, as opposed to an educational service as its primary purpose.

The increase in public and professional awareness of day care is evidenced by the abundance of empirical research addressing issues and questions such as how day care experiences affect the cognitive, emotional, and social/behavioral development of children (see Belsky & Steinburg, 1978; Etaugh, 1980; Hoffman, 1974; Rutter, 1982 for traditional reviews). For example, several investigators have addressed questions such as: does day care attendance affect the attachment bonding process of very young children as compared to children raised in the traditional fashion?

PREVIOUS RESEARCH REVIEWS

Previous reviews have provided narrative interpretations of the day care literature and identified several limitations and commonalties in this research. Belsky and Steinburg (1978) have identified four major limitations in the current body of literature on day care. These authors, and others, have noted that most researchers investigating the effects of day care have generally restricted their studies to high-quality day care centers. These are typified by university based centers with high staff to child ratios and well designed programs carefully aimed at fostering cognitive, emotional, and social/behavioral development. These authors, however, point out that this type of day care center is not available to most parents seeking alternative care for their children. It has been estimated that only 3% of the day care recipients under age six actually receive this high-quality care.

A second limitation often cited in reviews (Belsky & Steinburg, 1978; Etaugh, 1980) is that virtually no research to date has addressed the possible existence of long term cognitive, emotional or social/behavioral effects of day care, extending into primary school and/or adolescence.

A third limitation identified in day care research concerns the comparability of the home care sample to the day care sample. Typically these two groups are matched on one or more variables such as age, sex, parental occupation or social-economic-status (SES). Random assignment to groups proves to be almost impossible for this type of research. There is, however some indication that these typical matching variables do not assure the truly matched groups needed for interpreting study results. For example, there may be a difference in the adjustment to day care for a child whose parents have a favorable attitude toward day care versus a child whose parents have a

negative attitude. Fortunately some investigators are aware of these problems in matching home care and day care groups, and have taken steps to correct these deficiencies by selecting home care groups randomly from lists of people waiting for their child to enter a particular day care program.

The fourth limitation often cited against typical day care studies concerns the ecological validity of the results. Generalizations made beyond specific study characteristics, based upon artificial settings and staged activities commonly employed to assess the children's developmental progress, for example surely must be suspect in light of the limitation cited above.

As mentioned previously, there have been three primary issues investigated to determine the effects of day care on children's development. These issues are; (a) cognitive effects, (b) emotional effects, and (c) social/behavioral effects. Research investigating the cognitive effects of day care has primarily been carried out on children in high-quality day care centers with well developed programs aimed at fostering the children's cognitive abilities (Belsky & Steinburg, 1978). The results from these studies seem to suggest that day care experiences have no adverse effects on the cognitive development of most children. Studies typically report no significant group differences. There is, however, some evidence to suggest that high quality day care can have facilitatory effects for high-risk children (Etaugh, 1980).

The effects of day care experiences on the emotional development of children is perhaps best characterized by the large amount of research devoted to determining whether or not day care disrupts the attachment bonding process. The results of many researchers have, beyond any reasonable doubt, failed to support claims that day care attendance disrupts the attachment

process between child and parent. Alternative approaches to assessing emotional development in day care children have focused on the caretaker-child relationships, peer interactions, and interactions with strangers.

A third major topic of interest focuses on the social/behavioral effects of day care. Studies investigating these effects typically make inferences drawn from observations of day care and home care children interacting in various situations. In general, there is a tendency for day care children to exhibit more aggressiveness, impulsivity, and egocentrism than comparable home care children. This, as Belsky & Steinburg have stated clearly "may represent a phenomenon specific to American society, for these outcomes have been identified as characteristic of socialization in age-segregated peer groups in America" (p. 942).

A logical extension to the traditional reviews would be to investigate many of these same research domains, vis. research limitations, cognitive, emotional, and social/behavioral effects of day care on development, utilizing meta-analysis techniques. Meta-analysis as proposed by Glass, McGraw, & Smith (1981) and Hunter, Schmidt, & Jackson (1982) is a statistical model for reviewing research that seeks to describe as fully as possible the outcomes of a body of research. Meta-analysis converts the individual statistics reported in studies into effect sizes and use then as the units of analysis. Effect sizes are aggregated across a population or sample of studies and subjected to traditional statistical tests to determine if any reliable differences are present. An effect size represents, in standardized form, the relative difference between two groups, i.e. a day care group and a home care group.

$$ES = (\bar{X}_c - \bar{X}_t) / S_c$$

Where; ES is the standardized effect size,

$\bar{X}_c$ is the mean of the control group,

$\bar{X}_t$ is the mean of the treatment group,

S_c is the standard deviation of the control group.

In this manner, many different studies can be combined together into one overall analysis. Take the example of two or more investigations focusing on the effects of day care experiences on cognitive development. Each proceeds independent of the other and, therefore, uses different experimental designs but similar operational variables. A person responsible for a narrative integration these two different studies is faced with a large and often ambiguous task. Meta-analysis attempts to quantify this task by converting independent results into a standardized metric, i.e.; the effect size, and then aggregating all effects together for data description and hypothesis testing.

PROCEDURE

Selection of Studies

Two major literature searching techniques were used to identify potential studies for inclusion in this meta-analysis. These were the standard library computer search and a follow-up branching search.

Psychological Abstracts and Dissertation Abstracts International were searched via the Automated Information Retrieval Service (AIRS). This search focused primarily on identifying major review articles on day care. A branching search was conducted on the reference lists of the articles identified by the AIRS search. Branching searches were also conducted on all articles identified for inclusion in the meta-analysis.

Population

The domain for the meta-analysis was focused on the cognitive, emotional, and social/behavioral effects of day care in children from birth to first entry into nursery or a formal school environment. Any study which did not have a home care comparison group was excluded from the domain. Several other limiting factors further narrowed the total number of research articles included. These were: (a) the study must have been published after 1969, (b) the study must have been published in a refereed professional journal, (c) dissertations, theses, book chapters, government reports/articles, Head Start, and unpublished papers were not included, and (d) foreign samples were excluded from this meta-analysis.

Variables

A code book of variables was constructed based upon careful examination of the review articles. The final version of the code book appears in Appendix A, although the code book was modified and continuously updated as the coding process advanced.

The variables coded for this meta-analysis were (1) year of publication; (2) the type of day care setting; (3) total sample size; (4) control sample sizes; (5) treatment sample size; (6) if the day care group was matched to the home care group and if so, the matching variables; (7) age of the subjects in months; (8) percentage of male subjects; (9) percentage of female subjects; (10) average age of child in the day care sample at entry into day care in months; (11) average length of the day care experience up to the beginning of the study in months; (12) average length of study; (13) an internal validity rating score; (14) child to caregiver ratio; (15) type of assessment instrument; (16) setting for the dependent measure; (17) category of dependent

measure; (18) number of dependent measures reported; (19) mean reliability of the dependent variable(s); (20) the statistic from which the effect size was calculated from; (21) effect size, and (22) number of effect sizes in study.

Methods of Analysis

Each effect size, coded together with the 20 independent variables, was investigated statistically by various descriptive procedures. Descriptive statistics were calculated for each of the variables and are discussed below. In-depth analysis of the relationships among all variables was not possible due to the small sample of studies.

In several cases effect sizes could not be calculated directly from means and standard deviations because these were not provided in the articles. Procedures developed by Glass et al. (1981) and others were employed to recover effect sizes when means and standard deviations were not provided. In most cases, t -test and F ratios were converted directly into effect sizes by the following two formulas:

$$* (a) ES = t \sqrt{1/N_c + 1/N_e} .$$

$$** (b) ES = \sqrt{\frac{F}{t^2}} .$$

* Where N_c is the control sample size,
and N_e is the experimental sample size.

** Where F has degrees of freedom 1 and n .

RESULTS

Thirteen articles meeting the domain criteria with usable statistics were identified from approximately 75 articles, papers, dissertations, etc. Complete references to these articles are listed in Appendix B.

Based upon these 13 studies, 114 effect sizes were calculated for 22 dependent variables across a total sample of 492 day care and home care

children. Table 1 presents descriptive statistics for each of the 20 independent variables.

Insert Table 1 about here

Table 2 presents the means and standard errors for the 22 levels of the dependent variable. Since in many studies, several effect sizes within DV category might have been obtained, these were averaged together within each study and are presented in Table 3.

Insert Table 2 about here

Inspection of Table 3 suggests several things may be happening in a child's day care experiences. First, only six of the 22 pooled effect sizes are negative, suggesting that day care children exhibited less of this class of behavior than home care children. Note that a positive effect size means that the day care children exhibited more of that behavior(s), i.e., had a greater mean score. Regarding these six negative effect sizes, all but one - the Attachment Directed Towards the Parent (6) are in a preferred direction, that is day care children are less frustrated (2), cry less often (4), are less tense (18), show less attachment towards a non parent figure (21), and are less often reprimanded (22). Other interesting patterns emerging from this table suggest day care children tend to be sick more often (11), $ES = 0.54$, which also agrees with an increase in oral behavior exhibited by these children (14), $ES = 0.69$. The largest pooled effect is for the child initiated distance from the parent (15), while this effect is large relative to the others in Table 3, only two studies contributed to this pooled effect

size, it does tend to agree with the results from the Child Initiated Distance from Non Parent (20), $ES = 1.01$ and the increase in Exploratory behavior (2), $ES = 0.27$. Together these suggest that day care children tend to be more active, moving toward and away from adult figures in their environments.

Insert Table 3 about here

To facilitate a more parsimonious explanation of the 22 dependent categories, they were collapsed into three variables: Cognitive, social/behavioral, and emotional. The Cognitive composite score is derived from dependent variable categories 2, 9, 10, 13, and the negative of 3. The social/behavioral composite is derived from categories 2, 12, 16, 19, 22 and the negative of 1, 11 and 14. The emotional composite is derived from categories 5, 6, 7, 8, 15, 17, 20, 21 and the negative of 3, 4 and 18. Table 4 presents the means and standard errors for the three composite variables.

Insert Table 4 about here

The five variables aggregated together constituting the pooled cognitive effect have a mean $ES = 0.43$ suggesting that day care children exhibited almost one half a standard deviation more cognitive development in these 13 studies. This strongly suggests that day care does not adversely effect the cognitive development in children although it does not suggest the opposite, that day care enhances cognitive development. The eight variables representing 20 effect sizes were combined to form an aggregated effect for emotional behavior. This aggregated measure appears to suggest that day care has no real impact on the emotional behavior of these children as compared to home care children in the thirteen studies analyzed. It also suggests that day

care does not adversely effect a child's emotional development. The pooled effect for social/behavioral development, a composite of 11 measures with 32 effect sizes reflects the same pattern in effect size noted for the cognitive development. Day care children appear to be socially active or less intimidated than home care children in these studies.

Due to the small number of studies coded and analyzed at this point no other statistical analyses were performed. However, further statistical analysis investigating various relationships between the independent variables and the three dependent variables listed in Table 4 could provide further insight into the effects of day care on development.

DISCUSSION

Although this meta-analysis is far from complete, and suffering from the major limitation of a restricted sampling domain, it nevertheless begins to shed light on often disputed topics involving the effects of day care on development. Day care experiences clearly have major effects on the cognitive, emotional, and social/behavioral development of children. These effects, however, appear to not be in the direction most often cited by day care opponents, and by the popular press (Etaugh, 1980).

The positive effect observed for the pooled cognitive development measure is larger than anticipated. Previous research has typically identified group differences only when studying high-risk children in day care. Only one study in the present study used a sample of high-risk children. Moreover, two of the variables contributing to the aggregated cognitive development measure (the ability to abstract (10) and cooperation (9)) may not truly represent a greater cognitive ability. They may simply suggest that day care children have developed more sophisticated social communication skills than their home care peers in a highly verbal environment.

The overall positive effect size for emotional behavior ($ES = 0.56$) suggests that day care children are more emotionally adjusted than home care children. An often negative effect of day care experience on emotional development is its effect on the attachment bonding process. Based upon evidence gathered thus far, it appears that day care children do not show less attachment bonding as previous researchers has claimed, but more. Note the positive effect size for attachment to parent (8) and the negative effect size for attachment to a nonparent (21). The attachment bonding process, however, cannot be evaluated appropriately from these data because the mean age for all subjects was 35.6 months suggesting that the attachment bonding process had probably already taken place. Together this and other results tend to suggest that the day care children are emotionally better adjusted than home care children. This is possibly due to the wider range of environmental stimuli day care children are exposed to and the consequences of the socialization processes in typical day care environments.

The final composite variable: Social/behavioral development, is essentially zero. That is, day care and home care children do not tend to differ on these measures. This result is encouraging in similar ways as are the two previous composite measures. First day care does not seem to encourage deviant behavior, in fact there is slight evidence to suggest that home care children are more often restricted in their behavior (22), $ES = 0.91$, although the sample is too small to justify anything more than a tentative conclusion. Secondly, two of the composite measures, explanation (2) and interaction with strangers (12) are positive suggesting that day care children are not withdrawn or intimidated as a result of their experiences.

In summary, these results tend to suggest that day care has a slightly positive effect on a child's cognitive, emotional, and social/behavioral

development. There are however some limitations to the conclusions drawn from this data.

First, as previously mentioned, the number of studies included was very small, $N = 13$. Therefore this meta-analysis should be interpreted more as a pilot study than as a complete meta-analysis. Second, there has yet been no attempt to investigate the effects of sampling error and differential reliability of the dependent measures as suggested by Hunter, Schmidt, and Jackson (1982) and Heges (1986). This is of lesser concern presently because only means and standard deviations were analyzed and interpreted. As additional studies are added resulting in sufficient sample sizes for hypothesis testing of the various independent and dependent variables these concerns should be addressed. Lastly, these results point to the general heterogeneity of the day care literature, in 13 studies, 22 separate codable dependent measures were identified. As the current meta-analysis continues, a finer resolution of the meaning of cognitive effects or emotional or social/behavioral effects is necessary to reduce this variable space into a more manageable and hence interpretable form.

REFERENCES

- Belsky, J. & Steinburg, L.D. (1978). The effects of day care: A critical review. Child Development, 49, 929-949.
- Child Care Data and Materials. (1974). Committee on Finance, United States Senate (Committee Print). Washington, D.C.: Government Printing Office.
- Etaugh, C. (1980). Effects of nonmaternal care on children: Research evidence and popular views. American Psychologist, 10, 204-228.
- Glass, G.V., McGraw, B., & Smith, M.L. (1981). Meta-analysis in social research. Beverly Hills, CA: Sage Publishing Co.
- Hoffman, L.W. (1974). Effects of maternal employment on the child: A review of the research. Developmental Psychology, 10, 204-228.
- Heges, L.V. (1986). Issues in meta-analysis. In E.Z. Rothkopf (Ed.). Review of Research in Education (Vol. 13). Washington: American Educational Research Association.
- Hunter, J.E., Schmidt, F.L. & Jackson, G.B. (1982). Meta-analysis cumulating research findings across studies. Beverly Hills, CA: Sage Publishing Co.
- Rutter, M. (1982). Social-emotional consequences of day care for preschool children. In E.F. Zigler & E.W. Gordon (Eds.). Day care scientific and social policy issues. Boston, Mass.: Auburn House.

META-ANALYSIS

CODEBOOK

<u>Var Num</u>	<u>Variable</u>
1	ID number
2	YR of publication
3	TYPE of Day Care experience (1=college) (2=private) (3=public (fed fund)) (4=home) (5=other)
4	TOTAL SaMPle size
5	CONTRol SaMPle size
6	TREATment SaMPle size
7	MATCHing (1=yes 2=no)
8	MATCHing SERies (1=age) (2=sex) (4=ses) (8=race) (16=parental occup) (32=educ of parents)
9	mean AGE of subj (month) SEX:
10	ZMALE
11	ZFEMALE
12	LENGTH of Day Care experience (months)
13	mean AGE at Day Care ENTry (months)
14	LENGTH of STudy (months)

- 15 Internal VALIDity estimate
(1=low)
(2=medium)
(3=high)
- 16 child-caregiver RATIO
(1=1:1 to 1:5)
(2=1:6 to 1:10)
(3=1:11 to 1:15)
(4=1:16 or greater)
- 17 TYPE of dependent measure
(1=observational)
(4=Interview)
(8=rating scale)
(16=other)
- 18 PLACE of dependent measurement
(1=day care)
(2=home)
(4=natural setting)
(8=LAB)
- 19 Category of DV (Code 1-22)
- 20 NUMBER of DVS (Total in this Study)
- 21 RELIABILITY Coefficient (mean)
- 22 TYPE of STATistic effect size was calculated from:
- 1 = Mean/Std Dev $\frac{\bar{X}_{DC} - \bar{X}_{HC}}{S_{HC}}$
2 = t-test
3 = F-ratio
4 = Correlation
5 = chi-square
6 = Mean/MS within
7 = p value
- 23 Effect Size
- 24 NUMBER of Effect sizes

DEPENDENT VARIABLE CODES

- 1 = Aggression (directed towards any thing - Verbal or Physical)
- 2 = Exploratory/Play/Search/Motor Activity
- 3 = Frustration
- 4 = Crying
- 5 = Interaction w/ Peer (Another Child)
- 6 = Interaction w/ Parent (Either Mother and/or Father)
- 7 = Interaction w/ Caregiver
- 8 = Attachment Behavior (Directed Towards Parent)
- 9 = Communication
- 10 = Abstraction/Planning/Problem Solving/Spontaneity
- 11 = Sickness
- 12 = Interaction w/ Stranger
- 13 = IQ (Aptitude/Mental Development)
- 14 = Oral Beh (Chewing/Sucking figures and/or Toys)
- 15 = Separation/Avoidance (Child Initiated Distance from Parent)
- 16 = Social Behavior (Vocalizing/Laugh/Give-take/Smile)
- 17 = Affect
- 18 = Tension
- 19 = Give/Take (Passing an Object)
- 20 = Separation/Avoid (Child Initiated Distance From Nonparent)
- 21 = Attachment (Directed Towards Nonparent)
- 22 = Adult Restricting child Behavior (Prohibit - Interruption)

APPENDIX B

Articles Included in

Day Care

Meta-Analysis

21

- Blehar, M.C. (1974). Anxious attachment and defensive reactions associated with day care. Child Development, 45, 683-692.
- Doyle, A.B. (1975). Infant development in day care. Developmental Psychology, 11(5), 655-656.
- Macrae, J.W. & Herbert-Jaction, E. (1976). Are behavioral effects of infant day care program specific? Developmental Psychology, 12, 269-270.
- Moskowitz, D.S., Schartz, J.C., & Corsini, D.A. (1977). Initiating day care at three years of age: Effects on attachment. Child Development, 48, 1271-1276.
- Ragozin, A.S. (1980). Attachment behavior of day-care children: Naturalistic and laboratory observations. Child Development, 51, 409-415.
- Ramey, C.T., Farran, D.C., & Campbell, F.A. (1979). Predicting IQ from mother-infant interactions. Child Development, 50, 804-814.
- Robinson, H.B. & Robinson, N.M. (1971). Longitudinal development of very young children in a comprehensive day care program: The first two years. Child Development, 42, 1673-1683.
- Roopnarine, J.L. & Lamb, M.E. (1980). The effects of day care on attachment and exploratory behavior in a strange situation. Merrill-Palmer Quarterly, 24, 85-95.
- Roopnarine, J.L. & Lamb, M.E. (1980). Peer and parent-child interaction before and after enrollment in nursery school. Journal of Applied Developmental Psychology, 1, 77-81.
- Rubenstein, J. L. & Howes, C. (1979). Caregiver and infant behavior in day care and in homes. Developmental Psychology, 15, 1-24.

- Schwartz, J.C., Krolick, G., & Strickland, R.G. (1973). Effects of early day care experiences on adjustment to a new environment. American Journal of Orthopsychiatry, 43, 340-346.
- Schartz, J.C., Strickland, R.G., & Krolick, G. (1974). Infant day care: Behavioral effects at preschool age. Developmental Psychology, 10, 502-506.
- Winett, R.A., Fuchs, W.L., Moffatt, S.A., & Nerviano, V.J. (1977). A cross-sectional study of children and their families in different child care environments: Some data and conclusions. Journal of Community Psychology, 5, 149-159.

Table 1

Summary Statistics of 20 Independent Variables.

Independent* Variable	Mean	Standard Deviation	N
YR	76.4	2.84	13
TYPEDC**	1.89	0.78	9
TOTSMP	37.85	18.57	13
CONTSMP	17.61	9.36	13
TREATSMP	20.23	10.08	13
MATCH	1.31	0.48	13
AGE	35.45	11.95	11
XMALE	45.3	20.32	10
XFEMALE	54.7	20.32	10
LENGTHDC	13.82	13.82	11
AGEDCENT	23.71	15.75	7
LENGTHST	12.67	14.14	6
VALID**	2	0.71	13
RATIO**	1.71	0.49	7
TYPE**	5.62	7.48	13
PLACE**	6.17	3.19	12
NUMDVS	8.77	8.34	13
RELIBITY	0.88	0.05	8
NUMEFF	4.62	2.96	13
TYPESTAT**	2.28	1.89	13

* A description of the codes is in Appendix A.

** Categorical data, refer to Appendix A.

Table 2

Summary Statistics for the 22 dependent variable categories

Category of DV*	Mean Effect Size	Standard Error of the Mean	N
1	0.87	----	1
2	0.21	0.23	14
3	-0.37	0.09	4
4	-0.33	0.97	3
5	1.55	1.25	3
6	0.02	0.28	10
7	0.55	0.40	8
8	0.98	0.29	15
9	0.17	0.21	4
10	0.85	0.32	7
11	0.88	----	1
12	-0.01	0.17	4
13	0.63	0.15	11
14	0.69	0.04	2
15	2.47	0.47	2
16	0.54	0.36	8
17	0.86	0.11	4
18	-1.49	0.19	2
19	0.38	----	1
20	1.01	1.00	3
21	-0.87	0.38	3
22	-0.91	0.85	4
TOTAL	0.42	1.00	144

* Refer to Appendix B for codes.

Table 3

Summery Statistics for the 22 dependent variables collapsed within study.

Category of DV	Collapsed Mean Effect Size	Standard Error of the Mean	N
1	0.87	----	1
2	0.27	0.21	6
3	-0.42	0.10	3
4	-0.33	0.97	3
5	1.55	1.23	3
6	-0.15	0.46	6
7	0.55	----	1
8	0.54	0.38	4
9	0.17	0.09	2
10	1.72	----	1
11	0.54	0.35	2
12	0.17	0.35	2
13	0.47	0.15	5
14	0.69	0.04	2
15	2.47	0.47	2
16	0.46	0.51	4
17	0.86	0.16	2
18	-1.07	0.38	2
19	0.38	----	1
20	1.01	1.00	3
21	-0.87	0.36	3
22	-0.91	1.13	2

Table 4

Summary Statistics for Cognitive, Emotional, and Social/Behavioral Measures

Measure	Mean	Standard	N
	Effect Size	Error of the Mean	
Cognitive	0.43	0.12	17
Emotional	0.56	0.18	32
Social/Behavioral	0.04	0.23	20